Biosciences Biotechnology Research Asia 2015 vol.12 N1, pages 619-625

Research and development of hydro-mechanical differential variator

Salakhov I., Mavleev I., Shamsutdinov I., Basyrov R., Vladimirovich V.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The author has carried out the analysis of dynamic-coupled automatic transmissions and regarded the prospects of their application and development. New design of continuously variable transmission based on differential hydra-mechanical gear train was developed and covered by RF patents No2298125 and No2347966. Principles of work performance for high-torque differential hydra-mechanical gear train based on interoperation equableness of moments opposing one another that are produced at the gear carrier owing to inner forces of differential stages as well as self-actuated pressure variation and hydraulic fluid consumption change when it comes through hydraulic pump and hydraulic actuator.

http://dx.doi.org/10.13005/bbra/1705

Keywords

Continuously variable transmission, Differential hydra-mechanical variator, High-torque differential hydra-mechanical variator, Hydra-mechanical gear train, Mechanical diagram